

Regional Director, Fish and Wildlife Service  
Boston, Mass.

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Refuge Manager, Moosehorn National Wildlife  
Refuge, Calais, Maine.

WATER MANAGEMENT PLAN, 1949 - Moosehorn N. W. Refuge.

We maintain a water level of 6'2" on the Magurreweock Marsh through the waterfowl nesting season. Then we gradually raise the water up to 6'9" through the late fall and winter months. This is in order to make the area attractive to flight birds. We have also found it necessary to hold a higher water level during the late fall and winter months to save the muskrats from being drowned during the quick rises of water which always occur in the winter months when the ice is two or three feet thick. By manipulating the planks in the dam at the outlet we are able to maintain a fairly constant water table. We have made no change nor recommended any change in the water table that has been maintained on this marsh as the water level has apparently hastened the irradiation of the sedge and is permitting the establishment of better food plants. After the necessary irradiation has been attained, the water table can be held or lowered to its optimum level.

The plantings made have done very well. Openings have been made over the marsh and additional plantings should be made in areas where undesirable plants might take over. We were unable to do any planting in this marsh because of the work we had to do in developing Barn Meadow Marsh as a waterfowl area. If we have time a study of the marsh will be made and any change or additions will be recommended next year if needed.

We have been holding a water level of 2'6" over Barn Meadow Marsh through the waterfowl nesting season. While this water level worked out quite well, to encourage ducks, it proved to be too low to prevent the flooding out and destruction of nests built on non-floating sections of the marsh. The damage done was caused by water backing in from the St. Croix River during sudden rises caused by very heavy, continual rains during nesting period.

To counteract the effects of the water backing in from the river it is necessary to raise the water table in Barn Meadow Marsh to approximately 4'6". The exact table can be determined after the ice leaves the marsh next spring.

New and additional nesting sites have been made all over the marsh which will be above any ordinary flood stage of the marsh for any season. Many floating islands for nesting ducks have been made by flooding the marsh to about ten inches in depth, and letting it freeze so that the ice is sufficiently thick to lift the entire vegetation in the marsh by flooding the marsh to a much greater depth. Of course, any vegetation frozen in the ice would lift with the ice and much would stay afloat permanently.

Bertrand E. Smith  
Refuge Manager.